

## CLAIMS

1. A voltage control device for connection to an electrical supply having an alternating supply voltage, the  
5 device comprising:

an input having an input voltage, said input  
for connection to the electrical supply;

an output having an output voltage;

means for comparing the output voltage with a  
10 predetermined voltage and generating a comparison signal;

means to adjust the output voltage in response  
to the comparison signal, said means being connected to the  
input and output;

whereby the output voltage is maintained  
15 substantially at the predetermined voltage.

2. A device according to claim 1 wherein the means  
to adjust the output voltage comprise means to delay the onset  
of the rise of output voltage within a half-cycle.

3. A device according to claim 2 wherein the means  
20 to adjust the output voltage comprise means to delay the onset  
of the rise of output voltage within both half-cycles.

4. A device according to claim 3 wherein the delay  
in the onset of the rise of output voltage within one half-  
cycle is controlled independently of the delay in the onset  
25 of the rise of output voltage within the other half-cycle.

5. A device according to any preceding claim wherein  
the means to adjust the output voltage comprise a thyristor  
module.

6. A device according to claim 5 wherein the thyristor  
30 module comprises an antiparallel pair of thyristors.

7. A device according to claim 1 wherein the means to  
adjust the output voltage comprise means to reduce the  
amplitude of the output voltage within a half-cycle.

8. A device according to claim 7 wherein the means to  
35 adjust the output voltage comprise means to reduce the

amplitude of the output voltage within both half-cycles.

9. A device according to claim 8 wherein the reduction of the output voltage within one half-cycle is controlled independently of the reduction in the amplitude of the output  
5 voltage within the other half-cycle.

10. A device according to any of claim 7 to 9 wherein the means to reduce the amplitude of the output voltage comprise a variable AC transformer.

11. A device according to any preceding claim further  
10 comprising a bypass switch across the means to adjust the output voltage.

12. A device according to any preceding claim further comprising means to vary the predetermined voltage.

13. A device according to any preceding claim further  
15 comprising a display for displaying set-up parameters and operating information.

14. A device according to any preceding claim which is powered by the input voltage.

15. A device according to any preceding claim for  
20 connection to a single phase voltage.

16. A device according to any of claims 1 to 14 for connection to a multiple phase voltage.

17. A device according to claim 16 wherein the multiple phase supply voltage is a three phase voltage.

25 18. A method of controlling an alternating voltage comprising the steps of:

providing a device having an input which has an input voltage, said input being connected to an electrical supply having an alternating supply voltage;

30 an output having an output voltage;

comparing the output voltage with a predetermined voltage to generate a comparison signal;

adjusting the output voltage in response to the comparison signal whereby the output voltage is maintained  
35 substantially at the predetermined voltage.

19. A method according to claim 18 wherein adjustment of the output voltage comprises delaying the onset of the rise of output voltage within a half-cycle.

20. A method according to claim 18 wherein the  
5 adjustment of the output voltage comprises delaying the onset of the rise of output voltage within both half-cycles.

21. A method according to claim 20 wherein the delaying of the onset of the rise of output voltage within one half-cycle is controlled independently of the delaying of the onset  
10 of the rise of output voltage within the other half-cycle.

22. A method according to any of claims 18 to 21 wherein the delay in onset of rise of output voltage is caused by a thyristor module.

23. A method according to any of claim 22 wherein the  
15 thyristor module comprises a pair of antiparallel thyristors.

24. A method according to claim 18 wherein adjustment of the output voltage comprises reduction of the amplitude of the output voltage within a half-cycle.

25. A method according to claim 24 wherein adjustment  
20 of the output voltage comprises reduction of the amplitude of the output voltage within both half-cycles.

26. A method according to claim 25 wherein the reduction of the output voltage within one half-cycle is controlled independently of the reduction in the amplitude of the output  
25 voltage within the other half-cycle.

27. A method according to any of claims 7 to 9 wherein the reduction of the amplitude of the output voltage is caused by a variable AC transformer.

28. A method according to any of claims 18 to 27 wherein  
30 the predetermined voltage is varied.

29. A method according to any of claims 18 to 28 wherein the supply voltage is a single phase voltage.

30. A method according to any of claims 18 to 28 wherein the supply voltage is a multiple phase voltage.

35 31. A method according to claim 30 wherein the multiple

phase voltage is a three-phase voltage.

32. A voltage control device substantially as hereinbefore described with reference to and/or as shown in the accompanying drawings.

5 33. A method of controlling voltage substantially as herinbefore described with reference to and/or as shown in the accompanying drawings.

34. An electrical device comprising a voltage control device substantially as hereinbefore described with reference  
10 to and/or as shown in the accompanying drawings.